TRAVAUX DU MUSÉUM NATIONAL D'HISTOIRE NATURELLE «GRIGORE ANTIPA»

THE JOURNAL OF "GRIGORE ANTIPA" NATIONAL MUSEUM OF NATURAL HISTORY

Travaux du Muséum National d'Histoire Naturelle "Grigore Antipa" 64 (1): 61–65 (2021)
doi: 10.3897/travaux.64.e66165

FAUNISTIC NOTE

First record of the subfamily Epitraninae (Hymenoptera: Chalcididae) in the European Continent

Evangelos Koutsoukos[1, 2], Gerard Delvare[3]

1 *Section of Ecology and Systematics, Department of Biology, National and Kapodistrian University of Athens, 15784 Athens, Greece*
2 *Museum of Zoology, National and Kapodistrian University of Athens, 15784 Athens, Greece*
3 *Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), Montpellier SupAgro, INRA, IRD, Univ. Montpellier, Montpellier, France*

Corresponding author: *Evangelos Koutsoukos* (vag18000@gmail.com)

Received 19 March 2021 | Accepted 25 May 2021 | Published 30 June 2021

Citation: Koutsoukos E, Delvare G (2021) First record of the subfamily Epitraninae (Hymenoptera: Chalcididae) in the European Continent. Travaux du Muséum National d'Histoire Naturelle "Grigore Antipa" 64(1): 61–65. https://doi.org/10.3897/travaux.64.e66165

Abstract

Epitraninae Burks (Hymenoptera: Chalcididae) is a subfamily with a single recognised genus, *Epitranus* Walker, known to be distributed throughout the tropical areas of the Old World. Whilst recent studies have reported the presence of Epitraninae in countries of the Middle East, there are no published records from the European continent. A female specimen belonging to the *Epitranus hamoni* species complex was collected in Salamis island, Attica, Greece, and deposited at the Museum of Zoology (Athens). This record constitutes an important addition to the Greek and European Chalcidoidea fauna.

Keywords

Chalcidoidea, Chalcididae, new record, *Epitranus*, Greece.

Introduction

Chalcidid wasps (Chalcidoidea: Chalcididae) are a moderate sized family regarding species number (Aguiar et al. 2013) represented on the European continent by the subfamilies Brachymeriinae, Chalcidinae, Dirhininae and Haltichellinae (Noyes 2019;

Copyright *Koutsoukos & Delvare*. This is an open access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Cruaud et al. 2021). Epitraninae Burks were recognized as a subfamily by nearly all authors (e.g., Steffan 1957; Bouček 1982, 1988, 1992; Narendran 1989; Narendran and van Achterberg 2006). The sole exception was Heraty et al. (2013) who downgraded them to a tribe of Dirhininae. Cruaud et al. (2021) based on morphological and molecular data raised them again to subfamily status.

The subfamily is monotypic, including only *Epitranus* Walker (Bouček 1982; Noyes 2019). The genus contains 68 valid species (Noyes 2019), but after examination of the available type species most likely there are only 64 (GD unpublished data). The Epitraninae are mostly encountered in the tropical regions of the Old World such as the Afrotropical (Schmitz 1946; Steffan 1957) and Indopacific realms (Habu 1960; Bouček 1982 and 1988; Narendran 1989; Narendran and van Achterberg 2016) where they are generally collected in tropical forests (Robert Copeland and Claire Villemant, pers. comm.). *Epitranus* was quoted several times from the New World (Cresson 1865; Bouček 1992; Grissell and Smith 2003; Tavares and De Araujo 2007); however this is obviously the result of introductions of *Epitranus clavatus* (Fabricius) [including its junior synonym, *E. fulvescens* Walker, the type species of the genus] which were described from Guyana and the island of St. Vincent, respectively. *Epitranus clavatus* is associated with stored products and probably originated from south-east India (Bouček 1982). Recently *Epitranus* was nevertheless quoted from arid areas such as Egypt (Abdul-Sood and Gadallah 2018), UAE (Delvare 2017) and Iran (Moravvej et al. 2018).

Methods

During October 2019, a single specimen (Fig. 1) was collected by hand on a hill near the town of Salamis, where phrygana and pine trees prevail. The specimen

Figure 1. Female specimen from the *Epitranus hamoni* species complex, collected in Greece.

was deposited at the Museum of Zoology, National and Kapodistrian University of Athens Greece (ZMUA).

Material examined: Greece, 1 ♀, Attiki, Salamina, Patris hill, 37°97.0'N; 23°48.9'E, alt. 40 m, 15.XI.2019, coll. E. Koutsoukos (Voucher code: ZMUA HYM 000223).

Results

The initial identification was made following Gadallah et al. (2020), and confirmed through comparison with the type specimen of *E. hamoni* (Risbec) by GD. As explained by Gadallah et al. (2020) at least two species occur in the Arabian Peninsula according to the distinct morphology of the male scape, belonging to the *Epitranus hamoni* species complex. Unfortunately, no distinctive character was found so far to distinguish the females. They can thus solely be identified as belonging to the *E. hamoni* species complex. Nevertheless, this constitutes an important record, since it is the first of the subfamily Epitraninae for Europe. Additionally, during October 2017, a photographic record of an individual was taken in Salamis Island. As the specimen was not collected, the identification was limited to genus level. Both records, could indicate, but not confirm that the genus *Epitranus* has established populations in some areas of Greece. The presence of subfamily Epitraninae in Greece doesn't come as a great surprise, since species belonging to the genus *Epitranus* have been reported from many countries of the Middle East (Fig. 2). Further field research is due for a more holistic approach concerning the presence of this genus in Greece, as well as neighboring countries.

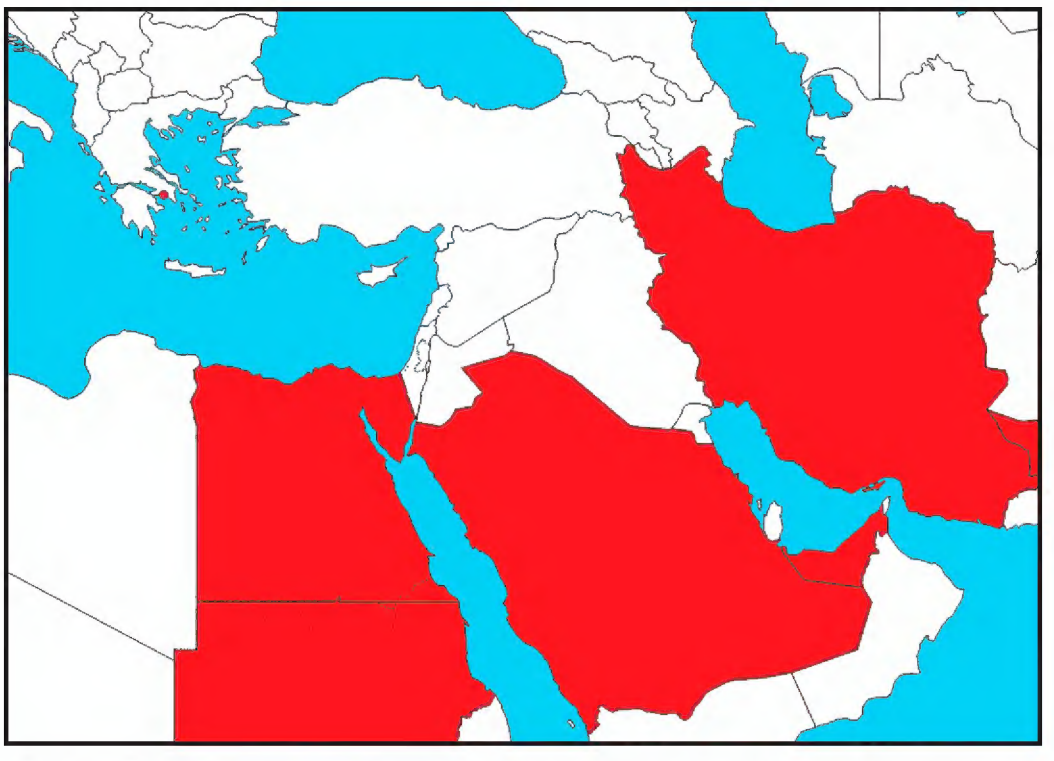

Figure 2. Presence of subfamily Epitraninae in the Middle East.

Acknowledgements

We are greatly thankful to Bruno Cancian De Araujo (SNSB - Zoologische Staatssammlung München), Lucian Fusu (Universitatea Alexandru Ioan Cuza) and the two anonymous reviewers for their valuable comments during the reviewing process of our manuscript.

References

Abul-Sood M, Gadallah N (2018) New records of the family Chalcididae (Hymenoptera: Chalcidoidea) from Egypt. Zootaxa 4410(1): 136–146. https://doi.org/10.11646/zootaxa.4410.1.7

Aguiar AP, Deans AR, Engel MS, Forshage M, Huber JT, Jennings JT, Johnson NF, Lelej AS, Longino JT, Lohrmann V, Mikó I, Ohl M, Rasmussen C, Taeger A, Yu DSK (2013) Order Hymenoptera. In: Zhang Z-Q (Ed.) Animal Biodiversity: an outline of higher-level classification and survey of taxonomic richness (Addenda 2013). Zootaxa 3703: 51–62. https://dx.doi.org/10.11646/zootaxa.3703.1.12

Bouček Z (1982) Oriental chalcid wasps of the genus *Epitranus*. Journal of Natural History 16: 577–822. https://doi.org/10.1080/00222938200770451

Bouček Z (1988) Australasian Chalcidoidea (Hymenoptera). A biosystematic revision of genera of fourteen families, with a reclassification of species. CAB International, Wallingford, Oxon, U.K. Cambrian News Ltd, Aberystwyth, Wales, 832 pp.

Bouček Z (1992) The New World genera of Chalcididae. In: Delvare G, Bouček Z (Eds) On the World Chalcididae (Hymenoptera). Memoirs of the American Entomological Institute 53: 49–117.

Cruaud A, Delvare G, Nidelet S, Sauné L, Ratnasingham S, Chartois M, Blaimer B, Gates M, Brady S, Faure S, van Noort S, Rossi JP, Rasplus JY (2021) Ultra-Conserved Elements and morphology reciprocally illuminate conflicting phylogenetic hypotheses in Chalcididae (Hymenoptera, Chalcidoidea). Cladistics 37: 1–35. https://dx.doi.org/10.1101/761874

Cresson ET (1865) On the Hymenoptera of Cuba. Proceedings of the Entomological Society of Philadelphia 4: 1–200.

Delvare G (2017) Order Hymenoptera, family Chalcididae. Arthropod fauna of the UAE 6: 225–274.

Gadallah N, Soliman A, Al Dhafer H (2020) First record of the subfamily Epitraninae from Saudi Arabia (Hymenoptera, Chalcidoidea, Chalcididae), with the description of three new species. ZooKeys 979: 35–86. https://doi.org/10.3897/zookeys.979.52059

Grissell EE, Smith DR (2003) First report of Epitraninae (Hymenoptera: Chalcididae) in the Nearctic. Proceedings of the Entomological Society of Washington 105(1): 240–241.

Habu A (1960) A revision of the Chalcididae (Hymenoptera) of Japan with description of sixteen new species. Bulletin of National Institute of Agricultural Sciences, Tokyo, Series 11: 131–363.

Heraty JM, Burks RA, Cruaud A, Gibson GAP, Liljeblad J, Munro J, Rasplus JY, Delvare G, Janšta P, Gumovsky A, Huber J, Woolley JB, Krogmann L, Heydon S, Polaszek A, Schmidt S, Darling DC, Gates MW, Mottern J, Murray E, Dal Molin A, Triapitsyn S, Baur H, Pinto JD, van Noort S, George J, Yoder M (2013) A phylogenetic analysis of the megadiverse Chalcidoidea (Hymenoptera). Cladistics 29: 466–542. https://doi.org/10.1111/cla.12006

Moravvej SA, Lotfalizadeh H, Shishehbor P (2018) On the presence of the subfamily Epitraninae (Hymenoptera: Chalcidoidea, Chalcididae) in Iran. North-Western Journal of Zoology 14(2): 267–268.

Narendran TC (1989) Oriental Chalcididae (Hymenoptera: Chalcidoidea). Kerala, India, University of Calicut, Department of Zoology, Zoological Monograph, 441 pp.

Narendran T, van Achterberg C (2016) Revision of the family Chalcididae (Hymenoptera, Chalcidoidea) from Vietnam, with the description of 13 new species. ZooKeys 576: 1–202. https://doi.org/10.3897/zookeys.576.8177.

Noyes JS (2019) Universal Chalcidoidea Database. World Wide Web electronic publication. http://www.nhm.ac.uk/chalcidoids.

Schmitz G (1946) Chalcididae (Hymenoptera Chalcidoidea). Exploration du Parc National Albert, Mission G. F. de Witte (1933–1935). Fascicule 48. Institut des Parcs Nationaux du Congo Belge, Bruxelles, 191 pp., 17 plates.

Steffan JR (1957) Epitraninae (Hym. Chalcididae) du Musée Royal du Congo Belge. Revue de Zoologie et de Botanique Africaines 56(1/2) : 71–91. [in French]

Tavares M, De Araujo B (2007) Espécies de Chalcididae (Hymenoptera, Insecta) do Estado do Espírito Santo, Brasil. Biota Neotropica 7: 213–220. https://doi.org/10.1590/S1676-06032007000200024. [in Portuguese]